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ABSTRACT

Certain areas in the social studies can be effectively taught in a non-classroom setting. This experiment determined if, in a supermarket situation, consumer preferences (as measured in sales figures and augmented by questionnaire data) could be altered by the addition of nutritional information to the labels of sixteen items which had moderate sales in a sample of two matched supermarkets. Two labeling methods were compared--that of the FDA (Food and Drug Administration), listing percentages of specific nutrients contained in one portion of a labeled item, with the FE (Food Equivalent), consisting of a diagrammatic comparison between nutrients in one portion of a well-known reference food. Analysis showed that the FE label was significantly more effective in promoting the sale of the more nutritious item, and that the addition of labels effected a change in consumer preference. Further, it seems safe to generalize that customers are open to some sort of educational process at the point of contact, if that contact is made in a certain manner, illustrating the need for planning in a methodological approach. The problems of adapting content and identifying certain steps can be dealt with and, moreover, an instructional model can be designed for use in such non-classroom instruction. (Author/SJM)

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SOCIAL STUDIES INSTRUCTION IN A NON-CLASSROOM SETTING

by

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SOCIAL STUDIES INSTRUCTION IN A NON-CLASSROOM SETTING

INTRODUCTION:

Curriculum content has been a thorny problem in the social studies for many years. The basic content of certain social sciences (e.g anthropology, sociology, economics) has been largely neglected due to the imposition of content requirements centered heavily on history with lip service granted to other major areas (most frequently geography and civics). Little has been done to achieve a more representative subject-matter balance; more often than not, innovative curricula have shifted the emphasis to a single different area, again slighting most of the social sciences. The key problem seems to have been whether the aim of the social studies should be to produce an expert in a particular field (i.e. history), or a latter-day Renaissance product, the social science dilletante. The desired goal of an individual exhibiting certain specific behaviors as an economic being, a political being, and a useful societal member has contributed to this quandary. The various ramifications of each of these positions have been well-developed elsewhere - it is the thesis of this paper that there exists yet another way of dealing with the problem of content, this being the removal from the formal school curriculum of those concepts which can be taught in a non-classroom setting with equal or

superior effectiveness. This paper will endeavor to identify certain social studies areas which might be adaptable to such a solution, and to suggest certain steps which might serve as a means for attaining effective instruction in the non-classroom environment. After extensive additional study, it seems that these steps can be refined and modified into a more formalized instructional model for use in such non-classroom instruction.

Prior to the delineation of steps which will aid the accomplishment of such endeavors, an experiment was conducted on a fairly limited basis to determine whether it was feasible to assume that some sort of consumer instruction could be effected in a marketplace situation. This particular content was selected, since economic consumption seemed to lend itself readily to a test of environmental instruction.

THE INITIAL EXPERIMENT:

Purpose:

The initial experiment was undertaken to determine if, in a supermarket situation, consumer preferences (as measured in sales figures) could be altered by the addition of nutritional information to certain food product labels. Both control period and experimental period sales figures were augmented by data

gathered from questionnaires personally administered to 184 shoppers. The questionnaires were utilized for several purposes - to confirm an initial assumption that the two stores which served as sites for the experiment were comparable, to determine the usual consumer preferences, to determine the extent to which the labeling information was intelligible to the consumer, and to assess the impact of such labeling on consumer choice.

Methodology:

The experimental design adopted to serve the above purposes was as follows:

I. Determination of the hypotheses under test as:

A. $H_o: \mu_E = \mu_C$ (The means for product movements are not significantly different for the experimental and control periods.)

$H_a: \mu_E \neq \mu_C$ (The means for product movements are significantly different for the experimental and control periods.)

B. $H_o: \mu_{FR} = \mu_{FDA}$ (Both labeling methods are equally effective in motivating consumer choice.)

$H_a: \mu_{FR} \neq \mu_{FDA}$ (The effect of one labeling method is significantly different from that of the other method.)

II. Definition of terms:

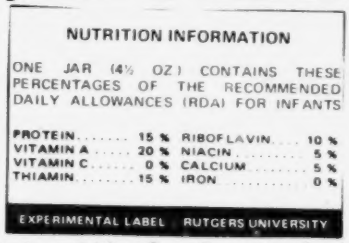
A. Product movement - term used by supermarkets to indicate product turnover. (Actual sales figures for test items.)

B. Experimental period - time during which test is conducted.

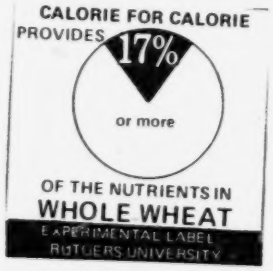
C. Control period - time from which baseline product turnover figures were gathered, prior to the inception of the experimental period and equal in duration to the experimental period.

D. More nutritious food - one which contained more of all, or all but one, of the following nutrients on an equal calorie basis: protein, vitamin A, vitamin C, thiamin, riboflavin, niacin, calcium, and iron.

E. FDA[1] - Food and Drug Administration's method of nutritional labeling which consists of listing percentages of specific nutrients contained in one portion of a labeled item. Example:


NUTRITION INFORMATION
ONE JAR (4½ OZ) CONTAINS THESE PERCENTAGES OF THE RECOMMENDED DAILY ALLOWANCES (RDA) FOR INFANTS
PROTEIN..... 15 %
VITAMIN A..... 20 %
VITAMIN C..... 0 %
THIAMIN..... 15 %
RIBOFLAVIN..... 10 %
NIACIN..... 5 %
CALCIUM..... 5 %
IRON..... 0 %
EXPERIMENTAL LABEL RUTGERS UNIVERSITY

F. FE - Food Equivalent method of nutritional labeling which consists of a diagrammatic comparison between the nutrients in one serving of the labeled food and the nutrients in one portion of a well-known reference food. Example:



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[1]Two labeling methods were compared in this experiment, as well as the impact of labeling at all. Two basic questions arise from this - first, does labeling make any difference at all as far as can be determined? and second, is there a discernible difference between the impact of the labeling system proposed for consumer education by the F.D.A. and that developed for the same purpose by Dr. M.J. Babcock, Department of Food Science, Rutgers University (the F.E. method)?

III. Selection of Sample and Materials:

A. Sample:

1. Two matched supermarkets so that design would be balanced - matching characteristics included geographical location, chain membership, items carried, volume of business, prices, hours of business, administrative procedures, and clientele profile.

2. Random sample of purchasers of labeled items for interviews.

B. Materials:

1. Test items - sixteen items to be used (same sixteen in both stores) which have moderate movement, stable prices for the duration of the experiment, and freedom from seasonal flux for the duration of the test.

2. Labels - for each item both an FE and an FDA label to be prepared, identically sized for that item and in black on white, with indications that it is experimental, and has been added by Rutgers University. (Only one of these will be on a given item at one time, however.)

IV. Establishment of base-line from which study could proceed:

A. Collect control period product movement figures for test items.

B. Match the two supermarkets on pertinent variables (indicated on page 4, Section III, A 1)

C. Prepare and validate questionnaire composed of both a checklist to be filled in by interviewer after visual observation of interviewee (i.e. sex) and questions to be asked verbally of the consumer to probe differences in pattern of consumer behavior at the time of the test as compared to the control

period. Then field test the questionnaire to establish the reliability and validity of the instrument.[2]

V. Establishment of experimental procedures:

A. Labeling procedures - labels for each item were positioned on the front of each item in a determined spot to maintain consistency. Items were paired (i.e. two cookies), and the labeled items were placed side by side to facilitate comparison of the labels, but this was done within their normal location (i.e. cooky aisle). Often this did not entail any move at all, and when it did, the move was close to its normal location. (For instance, the two cake mixes had been separated by only one other mix.)

B. Labeling schedules were set up so that the test would be completely balanced in this manner: Both items of a pair were labeled with one type of label in the first store, while the alternative type of label was used on the same pair of items in the other store. In each store, a total of four pairs had each type of label, bringing the total number of labeled pairs to eight. After two weeks, the types of labels were reversed, and the study continued for two more weeks.

C. Labeling procedures were set up in conjunction with the store personnel and staff supplied by the experimenter to determine stocking schedules for the test items, and insure that test items would be in stock and

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[2]The field test of the questionnaire was conducted at the Heights Hut in Piscataway, New Jersey, a miniature supermarket which serves individuals connected with Rutgers University - staff, faculty, and students. The location of the field test represents a limitation of the study in that the clientele of the Hut were better educated than the expected chain clientele.

labeled at any given time during the experimental period.[3]

D. Questionnaire procedures - a schedule was developed for the administration of questionnaires so that these were administered on every day of the experimental period. The time periods set up were morning (8:00 A.M. to Noon), afternoon (Noon to 4:00 P.M.), evening (4:00 to 8:00 P.M.), and late evening (8:00 P.M. to Midnight). One of these was assigned to each day of the week in such a manner that during the four weeks of the experiment, interviews were conducted at all times of day for each day of the week, the purpose being to determine differences (if any) for both the factors of day and hour.

E. Procedures were set up to gather weekly product movement figures.

F. The duration of the test was set at one month to minimize the effects of novelty and cyclical consumer shopping patterns.

G. A coding key was developed to prepare the data for analysis - product movement figures were fed in, and questionnaire results were coded so that frequency tabulations and various statistical manipulations could be easily accomplished. (i.e. for the variable sex, male was assigned 1, female 2, and couples 3.)

Results:

Data gathered for the test items consisted of both product movement figures and questionnaire results. In the analysis of

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[3]One of the items was unavoidably out of stock for a short period of time during the experimental period, and the test procedures were continued after the end of the initially determined time to obtain 28-day data for this item. Statistical analyses of this later-gathered data indicated this procedure was valid.

the sales figures, ratios were formed for each pair. Each pair member's sales were compared to the total sales for that pair (i.e. if both cake mixes together represented sales of 100, and cake mix #1 accounted for 40 of those sales, the ratio for cake mix #1 would be entered as .40). Since the two always totaled 100%, the ratio figure for the more nutritious item of the pair was the one dealt with. (It should be noted that the two items of a pair were differently valued nutritionally, but were so selected that this difference was not so disproportionate that presentation of the information would guarantee a change in consumption - in the F.E. system of labeling where a total value is given, for instance, two items of a pair might be rated 28% and 35% respectively.) The data presented in Table 1 are these ratios for each of the eight pairs - the figures listed as pretest are those obtained from the control period sales figures; the test period figures are the experimental ratios for both types of labels on that pair.

Several conclusions can be drawn on the basis of analysis of the data presented in Table 1.(presented on page 9) The method employed for this analysis was analysis of variance with the variance partitioned among stores, time periods, successive weeks within each time period and kind of label. These analyses show that for most pairs the FE label was significantly more

TABLE 1: Percentages of the more nutritious items sold in each pair.

PAIR	PRETEST	TEST PERIOD		
		FDA labels	FE labels	P
1	56	64	64	.05
2	53	48	61	.05
3	44	52	63	.10
4	46	64	62	N.S.
5	44	54	62	.05
6	47	52	66	.01
7	76	81	71	N.S.
8	58	26	48	.01
Mean	53	55	63	

Pair 1 consisted of two types of infant pudding; Pair 2 two infant dinners; Pair 3 two other infant dinners; Pair 4 two dessert mixes; Pair 5 two refrigerated biscuits; Pair 6 two refrigerated rolls; Pair 7 two cereals; Pair 8 two cookies.

effective in promoting the sale of the more nutritious item. In no case was the FDA label significantly more effective. Overall, addition of the FDA labels increased the sales of the more nutritious items from 53% to an average of 55% of the combined sales, while the addition of the FE labels increased the sales from the control period 53% to an average of 63% of the combined sales.[4] The indications of these figures are that addition of labels effected a change in consumer preference, and that addition of one sort of label (FE) was significantly more effective in this factor. This proposition is strengthened by the questionnaire responses indicated in Table 2 to Question 4, which support an inference that certain desired learning (which food item was actually better nutritionally) did influence the economic behavior of consumer selection of the more nutritious item.

From the above results, it seems justifiable to assume that consumers will be open to some sort of educational process at point of contact (here the supermarket), if that contact is made in a certain manner. An important factor in approaching any educational effort in an environmental setting appears to be a methodology which appeals to the learner population.

The other sorts of data gathered in this experimental effort resulted from the questionnaire interviews. (A copy of the questionnaire is on page 11.) The first kind of generalization

[4]Babcock and Murphy, Comparison of Two Nutritional Labeling Systems, New Brunswick: Rutgers University, 1972.

NUTRITIONAL LABELING QUESTIONNAIRE

DATE_____

Interviewer_____

Item_____

Label_____

SEX OF RESPONDENT: Male_____Female_____Couple_____

RACE OF RESPONDENT: White_____Black_____Spanish-Speaking___Other___

ESTIMATION OF AGE OF RESPONDENT:_____

1. Could you tell me why you selected this item today?_____
   _____
2. Was there anything which caught your attention about (item)?
   _____
3. What do you think about the added nutritional information?
   _____
4. What do you remember from the nutritional label?_____
   _____
5. Is there anything else you would like to see on the label?
   _____
6. Which sort of label do you prefer? FE___FDA___
   Would you like to see it on any other items?_____
7. How many times per week do you food-shop?_____
8. For how many persons over 12 do you shop?___Under 12?_____
9. What is your marital status?Married___Single__Widow__Divorced___
10. What is your occupation?_____Your spouse's?_____
11. About how much do you spend per week for groceries?_____
12. Do you usually shop in this supermarket?_____

which can be made after analyzing the data from the questionnaires is that the stores' clientele were well matched. The characteristics of interviewees is presented in Table 2, the only significant differences (as determined by chi-square test) being these: the customers in Store 1 shopped more often (2.6 times per week average as compared to 1.9), and shopped for more persons over 12 years (3.9 vs. 3.5) and fewer persons under 12 years of age (2.2 vs. 2.4). Considering the scope of characteristics listed in Table 2, it seems safe to assume that the sample in each store is, indeed, comparable and a justifiable basis for comparison exists.

The interest of the consumers in the added nutritional information is clearly indicated in the questionnaire responses presented in Table 2. Eighty-four percent of the shoppers indicate interest in such information, but there is a clear and distinct preference (about 7 to 1) for the FE method of presenting such information, again echoing the need for planning in a methodological approach to such a presentation.

Consumer interest also seems supportive of the theory that instructional efforts in a non-classroom setting are aimed at a highly motivated audience. The fact that the presented information will be immediately useful at the place of presentation seems to be the immediate cause for this high motivation.

Another factor contributing to this motivation is the concrete approach to education - the learner population is not forced to deal in abstract terms with the content being presented.

The overall conclusion to be made after analyzing the sales and interview results does, indeed, seem to be that there is justification for assuming that instruction can be effected in a social setting. The next question to be dealt with is the manner in which this can be accomplished.

STEPS TOWARD A THEORETICAL INSTRUCTIONAL MODEL:

It seems reasonable to assume that if some social studies instruction is to take place in a non-school social environment, some general procedures should be proposed to simplify and facilitate this undertaking. The major objective of this paper will be to present the initial stages of such a procedural delineation. This will be done by generalizing the pattern which appeared during the previous experiment with the full realization that such theorizing must be augmented by extensive additional study and experimentation.

The first and foremost requirement for success seems to be an accurate and complete assessment of the learner population involved in the instructional endeavor. This step is particularly

crucial in light of the fact that the members of this population may include individuals excluded from the regular classroom for one reason or other. A systematic profile should be made of this population, including characteristics pertinent to the concepts to be disseminated. A unique characteristic of all such populations is that of complete freedom to participate (or not to participate) in the educational process, which is being offered in a natural social situation entirely free of the constraints which are legally and/or personally imposed on individuals in a more formalized and contrived traditional classroom. In light of this characteristic it becomes essential to grasp both the needs of the population and the abilities of that population to respond to instructional efforts.

Many parameters might be considered in the development of such a profile. Purely descriptive items such as sex, age range of the population, and marital status may not seem pertinent, but should be collected on the chance that one of these will be important in later instances.[5] This sort of information would be invaluable in re-designing the instructional process for

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[5]In the supermarket test, for instance, extremes of age were found to parallel extremes of reaction to the experiment. It was also found that substantially different reactions were made by married individuals shopping with spouse.

populations with pertinent parameters different from that originally dealt with. In other words, this serves as a mechanism for compensating for differences in background characteristics of the population.

Certain characteristics generally can be assumed to be pertinent to any instructional effort. Crucial among these would be educational level, economic status, and culture. Both reading ability and ability to deal with materials of a pictorial or graphical nature are important, since these factors bear directly on methodological decisionmaking.

Economic parameters will aid in the determination of potential areas of concern to the population. A dual function can be proposed here. First of all, the educational efforts could be directed at the problems of most immediate relevence to a given economic level (such as employment procedures and the workings of welfare to low income individuals). Secondly, having fulfilled the needs of the present social environment, the instructional efforts can be directed at educating the population in one social setting to the needs and opportunities of other social settings. This can serve both as a mechanism for change (what can be done to better certain situations), and as a motivation for advancement (what possibilities exist in

other areas). An example of this would be the education of the upper-income population to the earlier-mentioned employment entry procedures and welfare mechanics.

The cultural parameters for the population profile will often cause a change in the focus of an instructional effort. Language could be vital here, as in the case of a natively Spanish-speaking population. Presentation of instructional efforts in Spanish as well as English could enhance the identification process of the population tremendously. This would capitalize on a natural environment, which is being transformed into an instructional environment with minimum interference on the part of those directing the educational efforts.

Another cultural contribution would be exemplified by the delineation of peer standards. For instance, if credit-buying is widely expected and accepted, the topic of consumer credit may be particularly germane to the population. Here again an effort is being made to pinpoint areas of immediate concern to the population, about which little or inaccurate knowledge prevails. The element of likely applicability at time of instruction makes such topics better candidates for environmental instruction than for traditional theoretical classroom instruction removed from concrete contact with the conceptual content.

An important latent function of the population profile is the determination of what the population does not need. This knowledge, determined as explicitly as possible, will forestall the boredom problem often caused in formalized social studies instruction by dissemination of vast quantities of information already known by the "learners".

After the population has been identified and described, a decision must be made of the conceptual content to be disseminated. Some sort of content may have been contemplated prior to the profiling, but it is vital to make the final content determination on the basis of several inputs. The first of these is an in-depth analysis of the population profile. Second is consultation with individuals whose perspectives can complement and complete that which is presented in the profile. Here one would consider the contributions of community members (both leaders and other individuals), educational resource persons, and those from whose fields the content is to be drawn.[6]

Several precise objectives will, hopefully, be met through the preceding steps. First of all, the concepts selected should be of direct interest to the population, insuring the maintenance

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[6]In the case of consumer credit, for instance, this would include the various persons who extend credit to the learner population i.e. banks, retailers, pawnbrokers, loansharks.

of fairly high motivation.

Secondly, the content will be responsive to the needs of the learner population. This does not imply in any way that such a technique must be restricted to "pragmatic" sorts of content. Although immediately useful concepts in the practical sense will probably be the first to be implemented, it seems entirely conceivable that the content may be comprised of loftier aesthetics in a response to cultural deprivation. For instance, cultural improvement of the social environment may be a primary need which, if met, would greatly facilitate educational efforts in other more practical areas.

After the content has been determined, a method must be selected to convey the content to the learner population. Selection of such a technique should be made in realistic consideration of practical constraints, such as time, personnel, resources,etc. After the method is selected, procedures should be developed for both its implementation and evaluation.

In the interests of saving time and effort, and improving the eventual efficiency of the method, a pilot test should be made of the procedures. The pilot population should approximate the learner population in pertinent characteristics as closely as possible. Several benefits are derived from the pilot test. First of all, the feasibility of the method is assessed, and can

be modified and re-piloted to insure the method that is actually implemented is optimally effective. Secondly, the feedback which can reasonably be expected from the learner population is determined. Thirdly, in light of the feedback, evaluative techniques can be developed to assess the instructional efforts in an ongoing basis.

The evaluative procedures are crucial, since the success of the educational efforts is highly dependent on maintenance of the high motivation found in the social situation. Constant evaluation and revision will serve to determine at what point the needs of the population have been met with optimal retention, and at what point subsequent needs should be dealt with in successive procedures. The determination of when these steps should be augmented is a function of the evaluative process. The instructional effort can be characterized as an ongoing, dynamic process, under constant modification to insure that it is oriented to the needs, reactions, and progress of the learner population.

A final step in any endeavor such as that just described is the dissemination of the results of such an effort. This is of vital importance if such programs are to attain the degree of success which is desirable. It must be acknowledged that the results for a given project can only be generalized to

a population with parameters identical to (or closely approximating) those of the subject population, but if all such endeavors were to be reported much of the initial labor could be decreased, freeing the project initiators for greater evaluation and innovation.

The possibilities for implementation of instruction in a social environment are almost limitless. If the model is keyed to the population's needs and interests, much of what has to be overcome in a formalized classroom is elimated, and the social studies concepts presented stand a greater chance for success in such a social environment. Some sorts of topics which appear likely candidates for this approach would be credit, taxes, career education,community government, cultural interaction procedures, legal and judicial procedures, etc. Many other areas from the social sciences would lend themselves to an approach which calls for instruction at point of contact or interest by the very "social" nature of these disciplines. In point of fact, it seems far more natural to convey some of the basic tenets of these disciplines in a social environment than in a formalized classroom setting in which these concepts must be dealt with abstractly more often than not.

TABLE 2: Interview of 184 Shoppers

Sex: Male; 18% Female:71% Couples: 10%

Race: White: 95% Black: 5%

Age Estimation: Range: 20 to 70 years Average: 36 years

Marital Status: Single: 3% Married: 92% Widow: 3% Divorce

Occupation: Housewife: 57% White Collar: 30% Blue Collar: 13%

Spouse's Occupation: Housewife: 12% White Collar: 50%
Blue Collar: 13% No Spouse: 8%

Shopping Frequency: Range 1 to 7 Average: 2.3 per week

Number Shopped For: Over 12 years: Range 1 to 6 Average 3.7
Under 12: Range 0 to 4 Average 2.3

QUESTION	REPLIES
1. Could you tell me why you selected this item today?	
Because of added nutritional information	58
Need and/or like item (customer preference	72
Drawn by question	54
2. Was there anything which caught your attention about____?	
Nutritional information added (sign and/or label)	138
Specific information (i.e. percentages)	18
Nothing	26
Price	2

3. What do you think about the added nutritional information?

	FDA respondents	FE respondents
Good	26	50
Easy to read	0	34
Not needed at all	8	3
Not needed for some items	3	0
Confusing	37	0
Too much information	15	0
Shows surprising information	1	7

Table 2, cont'd.

4. What do you remember from the nutritional label?

	FDA respondents	FE responde
The food that was better	34	52
Numerical percentages	17	26
Pie-Chart	0	10
*Other	37	4
Nothing at all	2	2

5. Is there anything else you would like to see on the label?

Calories per serving	28
Additives	19
*Other	19
Nothing	118

Which label do you prefer:

FDA label	22
FE label	151
No label	11

6. Would you like to see either kind of labeling on other items?

Yes, all other items	154
Yes, some other items	14
No	16

The interview procedure was designed and conducted by the author in the two participating supermarkets - the responses were arranged according to the first week's responses, and it was found that the classifications were satisfactory for the remaining interviews.

* Large number for "OTHER" category represents an amalgamation of vast numbers of responses, each of which were only infrequently recorded, and consequently not entered in this table for the sake of simplicity.